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ARTICLE

Relationships between information flow and informational behavior of users in formal organizations a systematic literature review

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ABSTRACT
This paper seeks to identify in the literature how the relationships between information flow and informational behavior of users in formal organizations occur. A Systematic Literature Review (SLR) was performed in order to answer two defined research questions, through a rigorous protocol, which included the identification of the research, the selection of studies, evaluation of study quality, extraction and synthesis of data. The method enables process replication and subsequent peer verification. A total of 608 studies were identified in the *Web of Science*, *Scopus* and *Google Scholar* databases, which after applying the selection criteria resulted in six approved studies that relate the concepts of information flow and informational behavior in organizations. Of these approved studies, four have direct interference between flow and behavior. Although no approved study cites the concept of formal organization, it has been inferred that some studies dealing with companies and their respective sectors are implicitly addressing formal organizations. It is concluded that of the six publications that met the proposed objective, four address the flow of information as an element that can influence or be influenced by informational behavior in organizations. The relationships between flow and informational behavior in formal organizations are under explored in the literature. Analyzing the details of these relationships is relevant to the field that aims to propose solutions involving these two phenomena in organizational contexts.

KEYWORDS
Information transfer. Information flow. Information users. Organizations. Literature reviews. User studies.

Relations between information flow and information behavior of users in formal organizations a systematic literature review

RESUMO
O presente artigo busca identificar na literatura como se dão as relações entre fluxo de informação e comportamento informacional de usuários em organizações formais. Foi realizada uma Revisão Sistemática de Literatura (RSL) com intuito de responder duas questões de pesquisa definidas, por meio de um rigoroso protocolo, que contemplou a identificação da pesquisa, a seleção dos estudos, avaliação da qualidade dos estudos, extração e síntese dos dados. O método possibilita a replicação do processo e consequente verificação pelos pares. Permitiu identificar nas bases de dados *Web of Science*, *Scopus* e *Google Scholar* um total de 608 estudos, que após a aplicação dos critérios de seleção, resultou em seis estudos aprovados que relacionam os conceitos de fluxo de

informação e de comportamento informacional em organizações. Destes estudos aprovados, quatro apresentam interferências diretas entre fluxo e comportamento. Embora nenhum estudo aprovado cite o conceito de organização formal, inferiu-se que alguns estudos ao tratarem de empresas e seus respectivos setores estão de forma implícita abordando organizações formais. Conclui-se que das seis publicações que atendiam ao objetivo proposto, quatro abordam o fluxo de informação como elemento passível de influenciar ou de sofrer influência do comportamento informacional em organizações. As relações entre fluxo e comportamento informacional em organizações formais possuem um diálogo limitado na literatura, evidenciando que tratar destas relações se constitui em algo relevante para o campo que visa propor soluções que envolva estes dois fenômenos em contextos organizacionais.

PALAVRAS-CHAVE
Transferência da informação. Fluxo da informação. Comportamento do usuário. Ambiente organizacional. Revisões de literatura. Estudo de usuário.

JITA: IF. Information transfer: protocols, formats, techniques.

1 INTRODUCTION

In contemporary Information Science (IS), information flow and circulation processes have been increasingly analyzed. Understanding these flows helps to meet the informational needs of society in its various contexts, which according to Almeida *et al*. (2017), can be studied from the perspective of the **information**, **people** and **technology** triad. Beal (2004) states that the way users deal with information (search, use, exchange, accumulate, ignore) profoundly affects the quality of information flows. In addition to flows and circulation, IS's relationship with behavioral sciences reveals an interdisciplinary field, which addresses the scientific study of human behavior in the search for information and in the way of processing it (HARMON, 1971; SARACEVIC, 1991). Martínez-Silveira and Oddone (2007) and Gasque and Costa (2010) state that informational behavior research, derived from the Users Studies, should be investigated in its relationships with information flow and informational behavior. There is also a need to identify whether there are, in the IS literature, theoretical-methodological approaches or models relating information flow and informational behavior. This article aims to identify in the literature how the relationships between information flow and user's informational behavior take place in formal organizations. Formal organizations are understood here as constituted by a formal and rigid hierarchy, where the planning of the labor division folows a regulatory view (of operation and control) (BRESCIANI FILHO; D 'OTTAVIANO, 2004). Thus, the following questions were raised:

- Q1: What is the actual research panorama relating the concepts of Information Flow and Informational Behavior?
- Q2: How are the interferences between Information Flow and Information Behavior manifested in formal organizations?

To answer the questions, the Systematic Literature Review (SLR) method proposed by Kitchenham (2004) was used, which allows the identification of all relevant research for a specific question, through a strict protocol. This method allows the replication of the process by another individual and consequent verification by peers. Thus, the premise is that the study contributes to a better understanding of the relationships between information flow and informational behavior in the context of formal organizations, through the identification and analysis of the existing literature.

The article is structured in six sections, starting with the introduction to the theme and the exposition of the questions that motivate this research. The second and third sections address, respectively, concepts of information flow and informational behavior, presenting how the literature has dealt with these terms. In the fourth and fifth sections, SLR and its steps are presented, as well as the results obtained. In the sixth and final section, the conclusions of the research, its limitations and questions for future work are presented.

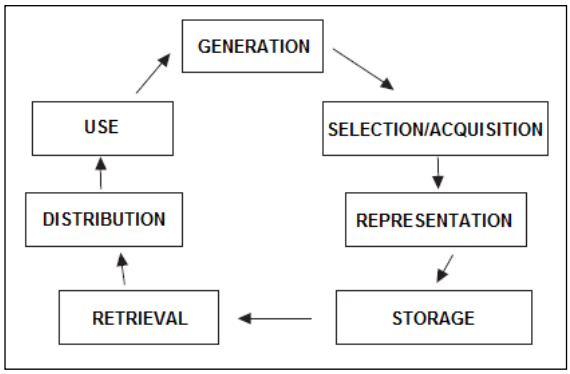
2 INFORMATION FLOW

Information technologies, supporting communication in networked environments, drive several changes in the ways of representing and understanding information. The flow of information generated in this context is characterized by horizontality and distance from the hierarchical mode of message production and transmission, following a multidimensional process, where many transmit messages to many, in a cyclical process. Digital technology has

created a dependence on society for non-corporeal relations and "the technological side of the man-technology equation is in continuous expansion" (SARACEVIC, 1996).

Based on González de Gomez (2000), one can visualize the information flow and circulation processes in one of the "layers", called meta-informational, where "the rules of interpretation and distribution are established, specifying the context in which the information makes sense". The applicability of information enables its use and understanding in the most diverse organizational, social and individual environments. The flows and circulation of information go through a cycle, which defines the steps and paths taken by the information in this given context. This informational cycle is initiated, according to Tarapanoff (2006), when an informational need is detected, a problem to be solved, an area or subject to be analyzed. It is a process that begins with the search for a solution to a problem, the need to obtain information about something, and involves identifying who generates the type of information needed, the sources and access, selection and acquisition, registration, representation, retrieval, analysis and dissemination of information, which, when used, increases individual and collective knowledge.

Figure 1. Stages of the informational cycle



Source: Tarapanoff, 2006.

The information in the cycle can be understood as a succession of events in a mediation process, between the generation of information by an emitting source, and the acceptance of the information by the receiving entity, and also that the inefficiency of the information flow can compromise the success the work of organizations in different areas of activity (BARRETO 1998; LE COADIC 2004; VIEIRA 2006; MARTINS 2011).

In the organizational field, Jamil (2001, p. 165) defines information flow as "the transmission of data or a set of data through administrative units (...), organizations and professionals, (...) to someone who needs them". For Greef and Freitas (2012), information flow is a sequence of events from the generation of information, by the sender, to its capture / assimilation by the receiver, generating individual and collective knowledge.

The information flow concept has been refined over the years, starting from the initial premise of transmitting content from a sender to a receiver, for definitions that mention other elements of the process (state of knowledge, mediation, environment and information needs). In this sense, to give an evolutionary view, we present some of the several concepts of information flow published between the years 1998 and 2017, as shown in Chart 1.

Chart 1. How the Information Flow concept evolved from 1998 to 2017

Information Flow Concept	Author
1) Sequence of events, from the generation of information by the sender, to its capture / assimilation / acceptance by the receiver, generating knowledge both individually and in the group involved in the process, when applicable. Although the flow of information represents the intention to transmit content, its scope also contemplates the innovation of a state of knowledge of individuals in the context in question.	Barreto (1998).
2) "Transmission of data or data set through administrative units [...], organizations and professionals, [...] to someone who needs them."	Jamil (2001, p.165).
3) It consists of the activity of identifying needs and information requirements, which act as drivers of the process, which can establish a continuous cycle of collection, treatment, distribution / storage and use to feed the organization's decision-making and / or operational processes, and takes also offering information for the external environment.	Beal (2004).
4) Natural component of the integration of production chains, which, if lacking in quality, causes failures.	Jacoski (2005).
5) "Dynamics of the information dissemination process, which has the function of mediating the communication processes."	Altíssimo (2009, p.45).
6) "[...] a channel - tangible or intangible, formal or informal, permanent or sporadic, constant or intermittent -, constituted by the circulation of information that flows from a certain origin, usually a support / individual, towards a destination of storage / processing, and this flow may be reversed until the objectives initially established are achieved."	Garcia and Fadel (2010, p.218).
7) "Information flows allow the establishment of the stages of obtaining, treating, storing, distributing, disseminating and using information in the organizational context."	Vital, Floriani and Varvakis (2010, p. 86).
8) It comprises the phenomenon of information between human beings, in which a source that generates or transmits information, a transfer channel and a recipient or receiver of a message with a meaning converge.	North and Presser (2011).
9) "The flow of information is a communication process with the intentionality of the information phenomenon, it does not aim only at a passage, and when reaching the target audience, the flow changes the current stage of the human condition. This development is passed on to its living space Such a space can be expressed in a networked social structure."	Sugahara and Vergueiro (2013, p.78).
10) "The information flow is a dynamic communication process that takes place in informational environments, with the objective of transmitting information, with added value, from one sender to one receiver or multiple receivers, aiming to respond to the most complex informational needs and enabling the generation of knowledge."	Araújo, Silva and Varvakis (2017, p.60)
11) "It is a process whose dynamics involve a succession of events, involving a starting point, a message and a destination for information in a continuous cycle, which depends on a mechanics that involves a set of elements (information sources and channels, actors and technologies) and influential aspects (information needs, barriers, speed of information, facilitators, and presence on the network)."	Inomata (2017, p.298)

Source: adapted from Greef *et al*., 2012; Inomata *et al*., 2015; Chini, 2018 and research data, 2018.

According to Chart 1, the information flow originates on the intention of transmitting content from a sender to a receiver, in which this content allows to innovate a state of individual or collective knowledge. Over time, several authors have contributed to clarify the concept, integrating other notions such as interaction between actors, data transmission, dissemination of information and mediation of the communication process. The concept adopted for this research was that presented by Inomata (2017), which defines informational flow as a succession of events involving a starting point, a message and a destination for information, also dependent on a mechanics that involves elements (sources and channels of information actors and technologies) and influential aspects (information needs, barriers, speed of information, facilitators, and presence on the network).

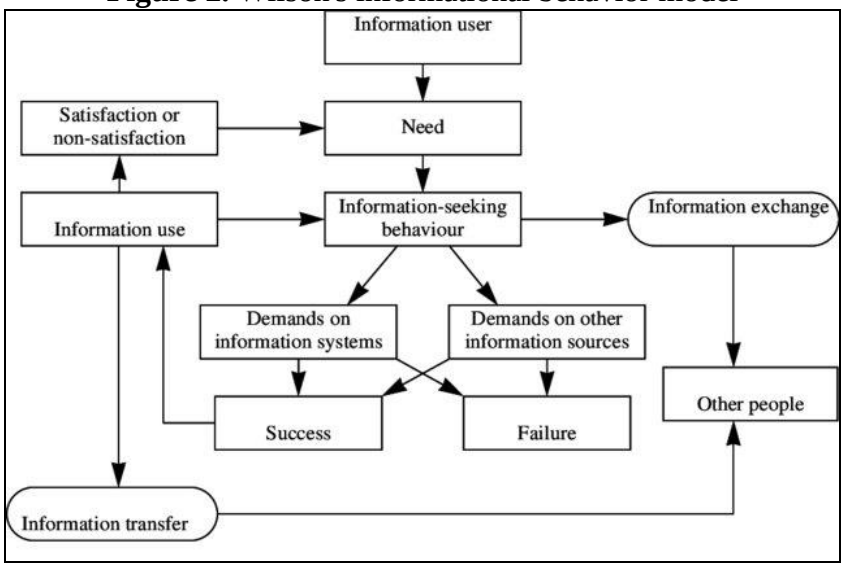
3 INFORMATION BEHAVIOR

Wilson (2000) proposes that informational behavior can be understood as a field arising from the limitations of user studies, which can be considered an evolution of these studies. Gasque and Costa (2010) cite that, in an article published in 2000, Wilson presents four definitions related to informational behavior: (i) Informational behavior: the totality of behavior in relation to the use of information sources and channels, including the search for passive or active information; (ii) Information-seeking behavior: the activity of seeking information to achieve an objective; (iii) Information search behavior: the micro level of behavior, where the individual interacts with information systems; (iv) Information use behavior: set of physical and mental acts and involves the incorporation of new information into the individual's prior knowledge.

Pettigrew *et al*. (2001) understand informational behavior as the activities that involve the needs of the subjects and the way they search, use and transfer information in different contexts. For the authors, the notion of context has a fundamental role in understanding the motivations and behavior of the information user. Martínez-Silveira and Oddone (2007) state that, although the context has a direct influence on the process of informational behavior, which seems to be decisive, in the perception of need, in the choice of information sources and in the decision to effectively seek information, it is not exactly the availability of resources, but the cognitive processes. On the other hand, Venâncio and Nassif (2008) state that in the behavior of seeking information, cognitive approaches are limited, since they consider the user restrictively as an individual who processes information, emphasizing the individual nature of their cognitive structures, putting social relations and the action contexts in which it is inserted in the background.

In 1981, Wilson conceived an informational behavior model inspired by users' physiological, cognitive and affective needs. Martínez-Silveira and Oddone (2007) mention that the context of these needs of the Wilson model would be configured by the individual himself, by the demands of his role in society and by the environment in which his life and work unfold. The barriers that interfere in the search for information would arise from this same context.

Figure 2. Wilson's informational behavior model

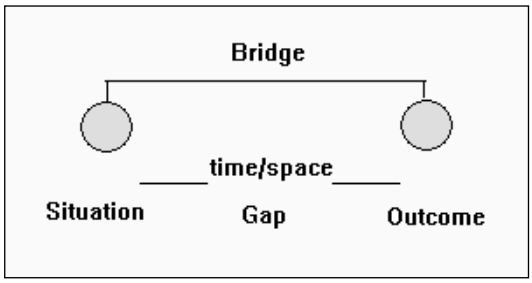


Source: extracted from Martínez-Silveira e Oddone, 2007, p. 123.

Advancing in studies of informational behavior from the perspective of the alternative approach, based on the cognitive paradigm, the sense-making model, proposed by Brenda Dervin, in 1983 emerges. For Costa *et al*. (2009), this model considers the set of conceptual and theoretical premises to analyze how people make sense and how they use information and other resources in this process. It looks for cognitive and meaning gaps expressed in the form of questions that can be coded and generalized from data directly useful for the practice of communication and information.

Martínez-Silveira and Oddone (2007) clarify that the sense-making model is composed of the elements situation, gap and result. The situation, inserted in time and space, would be the context in which the information problem arises. The gap would be the distance between the contextual situation and the desired situation. The result represents the consequence of the sense-making process.

Figure 3. Dervin's sense-making model metaphor

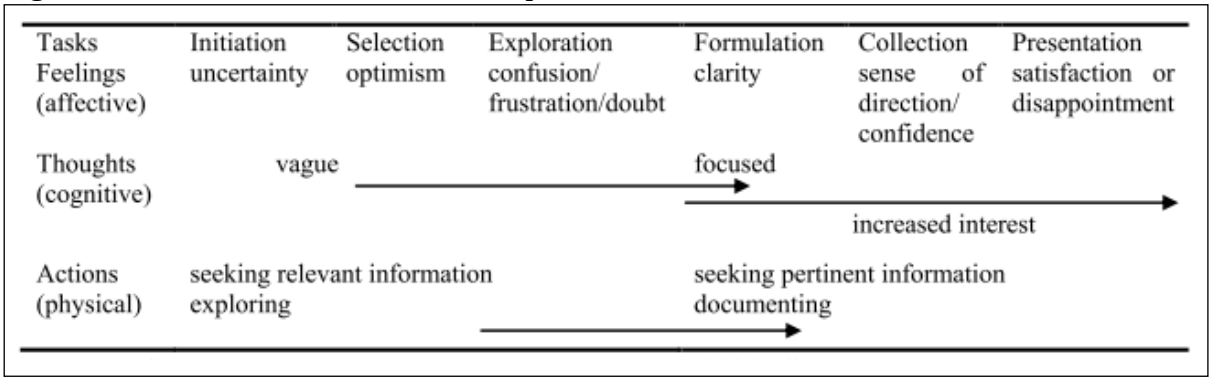


Source: extracted from Martínez-Silveira e Oddone, 2007, p. 123.

In 1989, Ellis developed a model of human behavior for informational searching. Costa *et al*. (2009) mention that the information search behavior model proposed by Ellis is based on the assumption that the search process occurs through cognitive aspects, consisting of steps that do not happen sequentially, general characteristics that are not seen as steps in a process. Initially, it is based on six categories of analysis: initiate, link, search, differentiate, monitor and extract. Subsequently, this model was perfected by Ellis himself, in 1993, together with Cox and Hall, who added two more categories to the original model, which are: check and finalize. Thus, the model consists of eight categories.

Kuhlthau (1991), in his Information Search Process (ISP) model, added to Ellis's model an association between feelings, thoughts and attitudes. For Martínez-Silveira and Oddone (2007) the perspective of the model is phenomenological, not so much cognitive. The phases proposed by Kuhlthau are initiation, selection, exploration, formulation, collection and presentation. Initiation, for example, is characterized by feelings of uncertainty, vague ideas on the topic. The attitude at this stage is simply to recognize the need for information. Other pertinent attitudes are to identify, investigate, formulate, collect and complete. Kuhlthau's model suggests that the initial emotional state of uncertainty, confusion and ambiguity associated with the need to seek information is being replaced by confidence and satisfaction as the search progresses and the hypothesis that the individual is succeeding.

Figure 4. Kuhlthau's information search process



Fonte: adapted from Kuhlthau (1991).

Martínez-Silveira and Oddone (2007) mention that Wilson and Walsh carried out a review of the informational behavior model in 1996, proposing connections with other domains. Although, as the focus of the informational need, the model kept "the person in his context", there was a need to include a stage between the person and his awareness of the need for information: precisely the point Dervin called the "gap" between situation and the use of information. To fill this space, Wilson adopted the concept of "activating mechanism", derived from the stress-coping theory, which helped to explain the reason why some informational needs do not become processes of actual search.

Still in the review carried out by Wilson and Walsh, another intermediate phase was perceived, now between the awareness of the informational need and the attitude required to satisfy it. This phase, called "intervening variables", was defined by Wilson based on the concepts of risk/reward theory and can trigger or obstruct information seeking initiatives. Sources, for example, can become barriers to the search process: when investigating why some sources of information are used more than others, it appears that, when there are several similar alternatives to choose from, the search efforts are proportional to the rewards offered by each source (MARTÍNEZ-SILVEIRA; ODDONE, 2007).

In order to aggregate approaches to the needs, search and use of information, Pereira (2008) mentions the integrative model of Chun Wei Choo, in which he considers previous studies:

> The model takes into account the works of Wilson (1981, 1999), Dervin (1993), which is linked to the cognitive dimension, with his theory of sense-making sense, developed since 1972, the emotional reactions that accompany the information search process, identified by Carol Kuhlthau (1991), and the situational dimensions of the environment in which the information is used, proposed by Robert Taylor (1986). According to this author, information needs are often analyzed based on the cognitive needs of individuals - gaps or deficiencies in a state of mental knowledge - which can be represented by questions or topics stored in information systems or other sources. (PEREIRA, 2008, p. 30-31)

In the review by Pettigrew *et al*. (2001) on informational behavior, the authors identify three related approaches: **cognitive** - examines the subject's behavior based on knowledge, convictions and beliefs; **social** - based on the meanings and values that individuals attribute to different contexts; **multifaceted** - integrates multiple opinions to understand informational behavior. In this field, Gasque and Costa (2010) add that informational behavior, understood as a natural process of the human being in the role of apprentice in his own life, requires a broad view. It also requires an understanding of the relationships established in a given space-time, in which actions for searching, using and transferring information occur. Individuals engage in these actions when they need information.

Among the various approaches of informational behavior, the concept adopted here is the one put forward by Todd (2003), who defines it as the whole human conduct in the search for information, being the study of the interaction between people, the various formats of data, information, knowledge and wisdom, in the different contexts in which they interact. The author adds that this study of human informational conduct refers to concepts such as people's informational contexts, information needs, information seeking behaviors, models of access to information, retrieval and dissemination, human processing and use of information. This definition is based on the belief that information is essential to the functioning and interaction of individuals, social groups, organizations and societies and to improve the quality of life. What underlies it is the belief that information has the potential to change what people already know and shape their decisions and actions.

4 METHODOLOGICAL PROCEDURES

According to Kitchenham (2004), SLR is a means of identifying, evaluating and interpreting the available content relevant to a specific research question or subject of interest. Some features differentiate an RSL from a conventional review. Systematic reviews: (1) define a review protocol that specifies the research question and the methods that will be used to conduct the review; (2) are based on a defined search strategy that aims to detect the relevant literature; (3) document their search strategy so that readers can verify its accuracy and integrity; (4) require explicit inclusion and exclusion criteria to assess a potential primary study; and (5) specify the information to be obtained from each study, including quality criteria to evaluate each primary study.

The SLR was carried out following the steps proposed by Kitchenham (2004), contemplating the identification of the research, the selection of the studies, evaluation of the quality of the study, extraction and synthesis of the data. To answer the questions raised, a search for relevant literature in three databases was defined (Web of Science, Scopus and Google Scholar). These databases were selected because they are the three largest databases for scientific reference documents (UNIVERSITAT DE BARCELONA, 2014). The initial search was carried out in May 2018 and updated in April 2020, considering the studies published between the years 2007 to 2019 and using the following strings in portuguese and english anywhere in the article (title, abstract, keyword and text):

• (("fluxo* informa*") OR ("fluxo* de informa*") AND ("comportamento informa*") OR ("busca informa*") OR ("busca* de informa*"))

• (("*information* flow*") OR ("*flow* of information*")) AND (("*information* behav*") OR ("*information* seek* behav*")))

In carrying out the search, some inclusion and exclusion criteria were defined for filtering the articles (Chart 2), as well as the quality criteria for evaluation.

Chart 2. Inclusion and exclusion criteria

Type	Criteria
Inclusion	Publications between 2007 to 2019. English or Portuguese.

Exclusion	Publications prior to 2007. Publications written in other languages (other than portuguese or english). Publications that do not fit the subject / area of knowledge (medicine, nursing, education, psychology, philosophy, among others). Publications that did not reach the minimum quality score, based on the quality criteria.

Source: research data (2020).

In the quality assessment, each accepted article was evaluated taking into account its adherence when answering the research questions. When answering a research question, the answers "yes", "partial" or "no" were attributed to the study and scored, respectively, with the values 1, 0.5 and 0. The maximum quality score was 21 points (100%) and the minimum quality was 12 points (approximately 57%). Articles below 12 points (57%) were excluded in this step.

5 RESULTS AND ANALYSIS

Based on the objective of the study, the SLR results will be presented in order to answer the research questions.

• Q1: What is the actual research panorama relating the concepts of Information Flow and Informational Behavior?

A total of 608 papers were retrieved, 146 with strings in portuguese and 462 with strings in english. From this set, 40 duplicate studies, indexed by more than one database, were identified. Table 1 shows the distribution of the articles, sorted by database and year of publication.

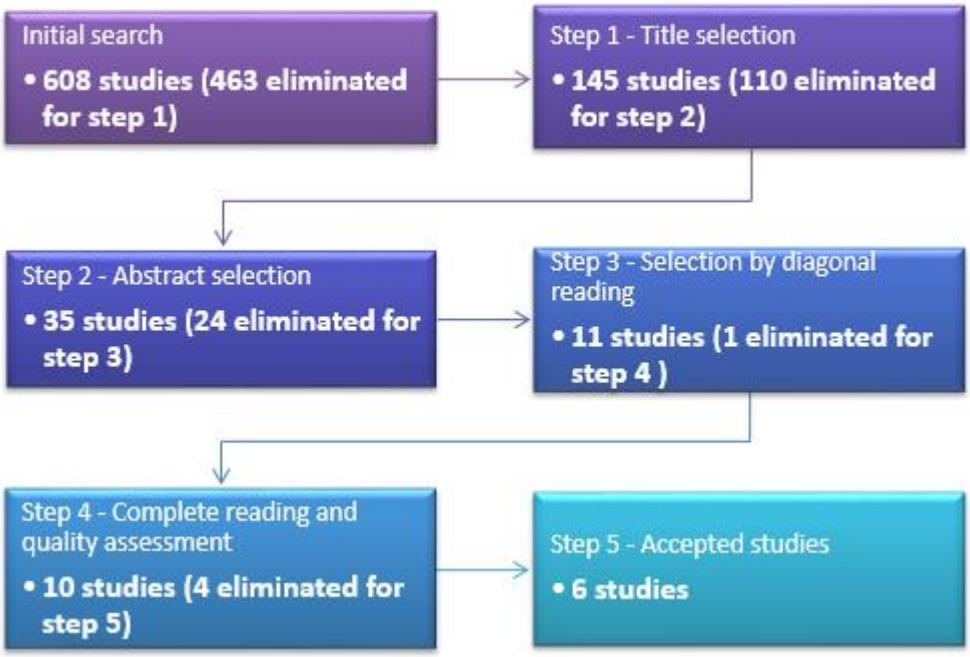
Table 1. Distribution of the initial search, by year and by database

Database	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Web of Science	5	4	9	6	17	18	12	9	14	13	13	23	17
Scopus	23	14	21	32	33	26	35	40	36	48	42	37	41
*Google Scholar**	1	0	2	0	1	4	1	1	2	2	1	2	2
Total	**29**	**18**	**32**	**38**	**51**	**48**	**48**	**50**	**52**	**63**	**56**	**62**	**60**

* The database retrieved 1 (one) study from the year 2003.
Source: research data (2020).

Table 1 shows that the total number of studies retrieved was higher between 2011 to 2019, with an average of 54 per year. Analysing by database, one can see that Scopus had the largest number of papers retrieved (428), followed by the Web of Science (160). Google Scholar returned only 20 papers in the initial search step, one of which was from 2003 (the period defined was from 2007 to 2019). Figure 5 shows the article selection steps.

Figure 5. Article selection steps



Source: research data (2020).

It is observed that, at each step of Figure 5, the studies that met the exclusion criteria established in the SLR were eliminated, resulting in a total of six accepted studies that are directly related to the concepts of information flow and informational behavior.

Table 2 shows the distribution by year and by database of the accepted articles. It is observed that five out of the six accepted are concentrated in the last five years of the selected period. Despite the low number of articles accepted, this distribution seems to indicate a more recent interest on the subject.

Table 2. Distribution of accepted studies by year and by database

Database	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Web of Science	0	0	0	0	0	0	0	0	1*	1*	1	0	0
Scopus	0	1	0	0	0	0	0	0	1*	1*	1	0	1

* Duplicate study
Source: research data (2020).

Among the selected articles, two of them were duplicates. It can be inferred that the two databases of Table 2 were the most relevantfor this SLR. Google Scholar had only one paper selected (step 1).

• Q2: How are the interferences between Information Flow and Information Behavior manifested in formal organizations?

Of the six accepted studies, four show direct interference between information flow and informational behavior. Chart 3 shows the references of the accepted articles.

Chart 3. References of accepted studies

References
AL-FEDAGHI, Sabah. Integration of information needs and seeking. **2008 IEEE International Conference on Information Reuse and Integration**, Las Vegas, USA, p. 473-478, Jul. 2008.
CUNHA, Izabella Bauer de Assis; PEREIRA, Frederico Cesar Mafra; NEVES, Jorge Tadeu de R. Análise do fluxo informacional presente em uma empresa do segmento de serviços de valor agregado (SVA). **Perspectivas em Ciência da Informação**, Belo Horizonte, v. 20, n. 4, p. 107-128, dez. 2015.
SKEC, Stanko; STORGA, Mario; ANTONIC, Ivana. Analysis of information behaviour in product development context. **14th International Design Conference**, Dubrovnik, Croatia, v.3, p. 1605-1614, May. 2016.
ARAUJO, Wánderson Cássio Oliveira; SILVA, Edna Lúcia da; VARVAKIS, Gregório. Fluxos de informação em projetos de inovação: estudo em três organizações. **Perspectivas em Ciência da Informação**, Belo Horizonte, v. 22, n. 1, p. 57-79, Mar. 2017.
TEIXEIRA, Thiciane Mary Carvalho; VALENTIM, Marta Lígia Pomim. Processo de busca e recuperação de informação em ambientes organizacionais: uma reflexão teórica sobre a subjetividade da informação. **Perspectivas em Ciência da Informação**, Belo Horizonte, v. 22, n. 4, p. 82-97, dez. 2017.
SUGAHARA, Cibele Roberta. Fluxo de informação em ambiente organizacional. **Revista Interamericana de Bibliotecología**, Medellín, Colombia, v. 42, n. 1, p. 45-55, ene-abr. 2019.

Source: research data (2020).

The studies by Skec *et al.*, Araújo *et al.*, Al-Fedaghi and Sugahara present information flow dynamics and how these flows can influence or be influenced by informational behavior in a given context.

Skec *et al.* present a practical research that seeks to identify and represent the information activities (behavior) of individuals and teams, as well as the network generated by the flow of information between different sectors. The research was carried out in two companies in the energy and automotive segments, within product development area.

Araújo *et al.* take a practical approach in three companies to analyze the information flows in innovation projects. In this context, an information flow model composed of two dimensions (elements and aspects) is presented, in which the factors that influence information flows are verified. Among the factors are included concepts related to informational behavior, such as: sources of information, determinants of choice and use of information and information needs.

Al-Fedaghi takes a theoretical stance and proposes a model that integrates concepts of information flow and information needs. The proposed model represents the information search process as a flow, detailing it in two spheres (of needs and information) and integrating the psychological and informational aspects in the search for information.

Sugahara discusses the importance of exchanging information in the organizational environment so that formal (structured) and informal (unstructured) flows are carried out. It addresses informational behavior in terms of information sharing and the importance of flows for the construction of individual and collective knowledge. Through a case study, it presents the flow of information exchange between specialists working in a textile network.

The other studies do not clearly show interference between flow and informational behavior. They focus exclusively on a certain concept, or only on information flow or only on informational behavior. In the case of Teixeira and Valentim's study, only one integration is mentioned, and cannot be considered as evidence of interference.

Although no accepted study mentions the concept of formal organization, it appears that some studies dealing with companies and their respective sectors are implicitly addressing formal organizations. In this sense, the studies by Cunha *et al*., Skec *et al*., Araújo *et al*. and Sugahara were carried out with the application of organizations from different segments.

Cunha *et al*. conducted the study in a cell phone company, interviewing the manager / coordinator of the Business Intelligence (BI), business and product sectors. Skec *et al*. explored the different aspects related to information in product development teams of two companies in the energy and automotive segments. Araújo *et al*. analyzed the information flows of the teams involved in innovation projects of three organizations with the following characteristics: information technology for agribusiness; non-profit research & development foundation; university graduate research group. Sugahara analyzed the exchange / sharing of information between people working in organizations of the textile productive chain (spinning, processing, weaving and confection) around the city of Americana / São Paulo-Brazil.

6 FINAL CONSIDERATIONS

In order to identify the relationship between information flow and informational behavior of users in formal organizations, as well as to anwser questions Q1 and Q2, six publications met the criteria through the SLR. The methodology proved to be adequate to explore the literature and retrieve the relevant studies that address the issue of interest.

Regarding these studies, it is observed that in the initial research, the Scopus base was the one with the greatest number, with 420 studies using strings in english and eight studies with strings in portuguese. The Web of Science database retrieved 137 studies using strings in portuguese and 23 studies with strings in english. In the Google Scholar database, a total of 20 studies were retrieved, 19 with strings in english and one with strings in portuguese. In summary, the Scopus database was the one that obtained the best response in the initial survey, with emphasis on the use of strings in english. In the selection of accepted studies, the Web of Science and Scopus databases were the most relevant, with the largest number of accepted studies related to research questions.

As for the type, theoretical and practical studies were identified with approaches aimed at organizational environments and which can be understood as formal organizations because they deal with companies and their respective sectors. Practical studies are carried out in different contexts such as telecommunications, energy, information technology, the textile industry, among others.

Among the accepted studies, in particular those that follow a practical stance, Cunha *et al*. and Araújo *et al*. made use of the qualitative approach and interviews to collect data. The paper by Skec *et al*., made use of sampling using smartphones for data collection. Sugahara used a questionnaire for data collection and social network analysis to show the flow of information exchanged between individuals.

In the identification of theories or models for information flow, the concepts of Valentim (2010) related to information flows (formal and informal) in organizations and their respective stages are mentioned in the studies by Teixeira and Valentim, Cunha *et al*., Araújo *et al*. and Sugahara. In sequence, Cunha *et al*. and Araújo *et al*. they refer to Beal (2004) and its information flow model aimed at organizations. These results indicate that, in the brazilian context, the authors have relevance to conceptual contributions in this theme.

Regarding the identification of theories or models for informational behavior, among the accepted studies, there was no consensus on referenced models. Specifically, four studies mentioned models of behavior, citing the propositions of Choo (Teixeira and Valentim, Sugahara), Wilson (Skec *et al*.) And Ellis (Al-Fedaghi).

In general, it is identified in this research that the relations between flow and informational behavior in formal organizations have a limited dialogue in the literature, regarding the possible influences or interferences between the concepts. Therefore, it is evident that dealing with the relationships between these concepts in organizations is something relevant to the field, since there are few publications that deepen this interrelation with a view to proposing solutions that involve these phenomena in organizational processes.

In the context of the SLR literature, this research has the following limitations: the selected digital databases may not include the entire scientific literature, since some journals and their respective content (articles) may not be indexed in the databases; the fact that it was carried out on digital bases, which mostly studies published in article format. Kitchenham (2004, 2007) suggests that in order to avoid this fact, one should also investigate the gray literature. It is envisaged as a complement of this SLR the construction of the network of references of the accepted studies, through the method of analysis of citations together with the analysis of social networks, allowing a clearer visualization of connections between authors used as a reference in the studies.

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